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Lence MILOSEVA[1] (Macedonia)

THE ROLE OF AUTOMATIC THOUGHTS AND TEST ANXIETY IN ADOLESCENTS' SCHOOL SUCCESS AND SATISFACTION

Abstract
Based on cognitive-behavioral model, this research aimed to explore possible developmental differences in the role that automatic thoughts and test anxiety have in explaining school success and satisfaction in adolescents; and to examine possible differences in prominence of the examined variables in relation to sex.
The data were obtained in one primary and one secondary school in Stip, at the end of the second term of the 2010/2011 school year. The sample consisted of 110 students, aged 13-14 years, from the 7th and 8th grade of primary school, and 120 students, aged 15-16 years, from 1st and 2nd year of secondary school, of which 148 were female, and 82 male. We have used the scale for the assessment of automatic thoughts during learning and test taking for adolescents (Živčić-Bećirević,2003).Besides automatic thoughts during learning, we assessed their test anxiety (Spielberg, Test Anxiety Inventory for students) and their satisfaction (Likert's type scale). All three types of negative thoughts were significant predictors of school success, while positive thoughts and negative thoughts related to fear of failure and fear of disappointing parents were significant predictors of student satisfaction. Girls have more negative thoughts related to fear of failure than boys do, which is also reflected on their higher test anxiety and they are in the same time less satisfied with their school achievements than boys. While there is no difference in the frequency of positive thoughts, older students have more negative thoughts than younger ones, as well as higher test anxiety. It is also notices that negative automatic thoughts related to fear of disappointing parents have significant effect on the success and satisfaction only in older group of students.

Key words: *automatic thoughts; test anxiety; school success; satisfaction; adolescents.*

1. Introduction

School situation, especially the one in class, causes a certain level of anxiety in most children and adolescents and arouses thinking about testing, grades, accomplishments, and possible success and failure. Thus availability and recognition of respective negative and positive automatic thoughts are ensured. Automatic thoughts are a central construct in the framework of cognitive conceptualization of psychopathology. At the moment they occur, they cause anxiety, decrease in concentration and decline in mood. If these occur multiple times during learning, they can seriously impede it at cognitive and emotional level.

The cognitive model emphasizes the impeding impact of negative automatic thoughts on behavior and mood. Taking the example of students with learning difficulties, these can be described as a parallel thinking process that

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occurs during learning or testing (questioning). Studies conducted in test situations find that negative thoughts are positively associated with test anxiety and that negative thoughts, test anxiety and worry are negatively associated with academic success (according to Diaz, Glass, Arknoff, & Tanofsky-Kraff, 2001). Most studies that have attempted to explain academic failure support the significant relationship between test anxiety (fear of testing) and academic failure (Benjamin, McKeachie, Lin, & Holinger, 1981; McKeachie, 1984). Most previous studies have suggested that high anxiety has an interfering impact, thus inducing the occurrence of reactions that are irrelevant to performing the tasks, which in turn impedes further successful task performance.

Other authors suggest that highly anxious students also have problems in encoding and organization of information in the course of learning the required material, beside the problem with calling the information in the test situation (Duller & Holahan, 1980, Benjamin & et al., 1981, Mueller, 1980).

When test anxiety occurs for the first time, it cannot be determined with certainty, although there is a presumption that it occurs between the seventh and the fifteenth year. The intensity of test anxiety grows in the function of developmental periods, following the curve of negative acceleration (it first grows rapidly, then its growth slows down, and eventually around the eighteenth year it stabilizes at the achieved level). These changes are taking place simultaneously with the changes in cognitive development. Developed logical thinking allows better prediction of possible violations of self-esteem (Lacković-Grgin, 2006).

In assessing test anxiety we should distinguish test anxiety as a trait, i.e. a predisposition of an individual for a certain experience or for performing certain behavior, from test anxiety as a state which reflects the actual response of the individual in a specific situation (Endler, Parker, Bagby, & Cox, 1991).

Numerous studies confirm the negative relationship between anxiety and academic success (Seipp, 1991). While some authors have found that anxiety as a state is a negative predictor of success on the exam (Frierson & Hoban, 1987; Hunsley, 1985), others have found that in models that include both self-efficacy and negative thoughts (Arknoff, Glass, & Robinson,1992; Ozer & Bandura, 1990) anxiety as a state is not related to success. Thus, for example, other researchers (Diaz et al., 2001) find that anxiety as a trait is predictive of self-efficacy and cognitive control, which are predicative of the emergence of thoughts that stimulate anxiety in a specific situation.

2. Method

2.1.Sample and procedure

The data were obtained in one primary and one secondary school in Stip, at the end of the second term of the 2010/2011 school year. The sample consisted of 110 students, aged 13-14 years, from the 7^{th} and 8^{th} grade of primary school, and 120 students, aged 15-16 years, from 1^{st} and 2^{nd} year of secondary school, of which 148 were female, and 82 male.

The research was conducted anonymously during regular classes (per class hour). The goal was explained to the students briefly before the research, and after that they were directed to positive, encouraging thoughts.

2.2. Instruments

- **Questionnaire for automatic thoughts in the course of learning**

The adjusted scale for assessment of automatic thoughts in learning and taking exams (Živčić-Bećirević, 2003) for adolescents was used. The questionnaire consists of 48 items, and the examinee assesses the frequency of occurrence of some thoughts on a scale of 4 degrees. The total score of the scales is not calculated, and the result of individual subscales is determined by the linear shrinkage of estimates. According to the authors of the original scale for students (Živčić-Bećirević, 2003), the scale resulted in 4 factors: fear of failure, positive thoughts, fear of disappointing parents, lack of motivation and disinterest in the material.

By means of factor analysis of common factors, with Varimax rotation, results similar to those in the research of the authors of the questionnaire (Živčić-Bećirević, 2003) were obtained. Four factors were confirmed, the first of which contains 18 items that reflect negative expectations and fear of failure, and explain 15.50% of the variance. The second factor contains 16 items that reflect positive, encouraging thoughts, and explain 9.28% of the variance. The third factor contains 7 items that reflect the fear of disappointing parents and explain 9.05% of the variance, and the fourth factor relates to lack of motivation and interest in learning and explains 8.52% of the variance. All four factors together explain 42.35% of the total variance.

- **Test anxiety questionnaire**

In addition to automatic thoughts during learning, students also assessed their test anxiety with Spielberg's questionnaire for test anxiety as traits for students (Spielberg, an adapted version of the questionnaire for test anxiety as a trait for students, according to Arambašić et al., 1989).The questionnaire consists of 32 items that describe symptoms of test anxiety, and the examinee assesses the frequency of their appearance on a scale of 4 degrees. Factor analysis of common factors with Varimax rotation confirmed the findings of previous research (e.g.Živčić-Bećirević, 2003). Two factors were established which together explained 31.28% of the total variance. The first factor explains 16.30% of the variance and includes items that describe cognitive aspects of test anxiety, while the other factor explains 14.98% of the variance, and includes particles that describe physiological and emotional signs of test anxiety.

School success is determined by an assessment of overall school success at the end of the previous grade. The general success is in the range from 2 to 5 and the average is 4.30.

Students also assessed the **satisfaction with themselves as students** on Likert scale of 4 degrees (1-4), and the average estimate is 2.98.

3. Results and discussion

Based on cognitive-behavioral model, this research aimed to:

- explore possible developmental differences in the role that automatic thoughts and test anxiety have in explaining school success and satisfaction in adolescents;
- examine possible differences in prominence of the examined variables in relation to sex;

In order to check the **age, developmental differences in prominence of individual measures** t-tests are calculated. Students are divided into two age categories, with younger students aged 13-14 years clustered into one group, and older at the age of 15-16 years are clustered into another group. The results are shown in Table 1.

Table 1 Age differences in prominence of the examined variables

	M		SD		*significance of differences*	
VARIABLE	younger	Older	younger	older	t	P
AT – fear of failure	17.35	**21.10**	11.25	11.14	4.53	**<.001**
AT – fear of disappointing parents	6.82	**8.02**	5.25	5.21	2.54	**.014**
Positive Automatic Thoughts	28.15	29.42	8.22	6.89	1.32	.146
AT – lack of motivation	5.45	**7.82**	4.53	5.11	5.33	**<.001**
Test anxiety – (cognitive)	30.12	**31.35**	7.60	7.98	2.09	**.011**
Test anxiety – (physiological)	36.74	**38.10**	8.12	9.10	1.78	.065
School success	**4.38**	4.19	.78	.83	1.98	**.063**
Satisfaction with themselves as students	2.08	2.08	.88	.76	.038	.990

It is established that older students have more strongly expressed all types of negative automatic thoughts, while there are no differences in the frequency of positive thoughts. This could be explained by the more complex cognitive development and more complex thinking, as well as by using inner speech in control of their behavior and emotional experience. Younger students have a borderline better school success. Both age groups do not differ in satisfaction with school achievements.

The contribution of automatic thoughts and test anxiety to the students' success and satisfaction, respectively in the group of younger students and in the group of older students, is determined by applying stepwise regression analysis. The results are shown in Table 2.

Table 2 Significant predictors of school success in both age categories of students

	Younger students	Older students
PREDICTORS	Beta	Beta
AT – fear of failure	-.367**	n.s.
Positive Automatic Thoughts	n.s	n.s.
AT – fear of disappointing parents	n.s.	-.169*
AT – lack of motivation	.158*	n.s.
Test anxiety – (cognitive)	-.269*	-.370**
Test anxiety – (physiological)	.310**	.411**
	R=.39; R^2=.15 F (7.586) = 7.54**	R=.48; R^2=.23 F (8.105) = 16.79**

** p<.001 ; * p<.01; n.s. not statistically significant

The cognitive aspect of test anxiety (worry) has a negative effect, and the physiological aspect of test anxiety has a positive effect on school success in both age groups. Negative automatic thoughts that reflect the fear of failure are a significant negative predictor, and those that reflect lack of motivation and interest in the material are a positive predictor of school success only in the group younger students, but not in the group of older students. On the other hand, negative automatic thoughts that reflect the fear of disappointing parents are a negative predictor of school success only in students in the older age category, but not in the younger category.

Table 3 Significant predictors of satisfaction with themselves as learners in both age categories of students

PREDICTORS	Younger	Older
	Beta	Beta
AT – fear of failure	-.242*	-.312**
Positive Automatic Thoughts	.147*	. 158**
AT – fear of disappointing parents	n.s.	-.178*
Test anxiety – (cognitive)	-.231*	-.195*
Test anxiety – (physiological)	n.s.	.184*
School success	.229**	n.s.
	R=.53; R^2=.28 F (6.941) = 12.82**	R=.51; R^2=.26 F (7.312) = 20.12**

** p<.001 * p<.01 n.s. not statistically significant

From Table 3 it can be seen that a grade as a relatively objective measure of school success is a significant predictor of satisfaction with oneself as a student, as a subjective measure of success, but only in younger students, not in older ones. Again, as in the research performed by Živčić-Bećirević, 2003, it is confirmed that fear of disappointing parents is an important predictor of satisfaction with oneself as a learner, but only in the group of older students. As for physiological anxiety, it has less impact on satisfaction with oneself than on students' achievement, especially in the younger group. Positive thoughts, contrary to expectations, contribute to the explanation of satisfaction, but not of students' success from both age categories

In order to test for **differences in gender in the prominence of the investigated variables** t-tests for large samples are calculated. The results are shown in Table 4.

Table 4 Prominence of automatic thoughts, test anxiety, and school success and satisfaction in girls and boys

	M		SD		*significance of differences*	
VARIABLE	M	F	M	F	t	p
AT – fear of failure	18.98	**22.00**	10.80	10.35	2.18	**.013**
AT – fear of disappointing parents	5.88	6.35	.40	.42	1.27	.274
Positive Automatic Thoughts	28.30	30.28	8.45	7.45	1.43	.123
AT – lack of motivation	8.32	7.88	5.12	4.35	.84	.468
Test anxiety – (cognitive)	30.12	**29.00**	8.16	8.86	5.45	**<.001**
Test anxiety – (physiological)	33.85	**40.99**	8.45	8.51	4.12	**.014**
School success	4.18	**4.37**	.79	.71	6.42	**<.001**
Satisfaction with themselves as students	**2.12**	2.04	.79	.78	2.18	**.027**

Analysis showed that girls have more negative automatic thoughts that reflect their fear of failure, as well as a more intensive test anxiety. Between girls and boys, no significant differences in frequency of other, neither negative nor positive, automatic thoughts were determined. Girls achieved better objective school success, but it is interesting that, unlike them, boys are more satisfied with their school achievements.

To identify the contribution of automatic thoughts and test anxiety to students' success and satisfaction, a stepwise regression analysis was conducted, respectively for girls' and boys' group. The results are shown in tables 5 and 6.

Table 5 Significant predictors of school success of girls and boys

	Girls	Boys
PREDICTORS	Beta	Beta
AT – fear of failure	-.202**	-.247*
AT – fear of disappointing parents	-.201*	n.s.
AT – lack of motivation	.156*	n.s.
Test anxiety – (cognitive)	-.302**	-.411**
Test anxiety – (physiological)	.305**	.403**
	R=.38; R^2=.14 F (7.981) = 8.96**	R=.41; R^2=.17 F (8.031) = 9.75**

** p<.001 * p<.01 n.s. not statistically significant

The analysis showed that the cognitive aspect of test anxiety (worry) has the strongest negative effect on school success for girls and boys, while the physiological aspect of test anxiety has a positive effect on the success of students of both sexes. These data are consistent with the data obtained in surveys conducted by Živčić-Bećirević, 2003, as well as with the data by a number of other authors (according to Spielberger & Vagg, 1995).

Negative automatic thoughts focused on fear of failure have an impeding effect on school success of students of both sexes, while thoughts that reflect fear of disappointing parents have a negative effect only on girls' success. Automatic thoughts that reflect lack of interest and motivation for learning have a positive effect on the success of girls, while not affecting the success of boys.

Table 6 Significant predictors of satisfaction with themselves as students in girls and boys

	Girls	Boys
PREDICTORS	Beta	Beta
AT – fear of failure	-.220*	-.315**
Positive Automatic Thoughts	.125*	.141*
AT – fear of disappointing parents	-.158*	-.198*
Test anxiety – (cognitive)	-.298**	n.s.
Test anxiety – (physiological)	.203*	n.s.
	R=.49; R^2=.24 F (7.988) = 15.58**	R=.50; R^2=.25 F (7.439) = 14.58**

** p<.001 * p<.01 n.s. not statistically significant

As can be seen from Table 6, negative thoughts that reflect fear of failure and fear of disappointing parents are significant negative predictors, and positive, encouraging automatic thoughts are an important positive predictor of satisfaction with oneself in students of both sexes.

Negative automatic thoughts that reflect lack of interest and motivation for learning do not contribute significantly to students' satisfaction. In girls, unlike in boys, the cognitive aspect of test anxiety is negative, and the physiological aspect is a positive predictor of satisfaction. While a stronger degree of worrying hinders the experience of satisfaction for girls, enhanced physiological incitement may be a sign of activation and engagement in the tasks and in the desire for achievement and as such it contributes to a greater experience of satisfaction.

Conclusion

As for negative automatic thoughts, it seems that thoughts focused on fear of disappointing parents are somewhat less significant among pupils than in research of students (e.g. Živčić-Bećirević, 2003). A weaker influence of these thoughts is confirmed by the results of the conducted regression analysis. Comparably, between the two age subcategories in the sample, it appears that the fear of disappointing parents is a significant predictor of school success and satisfaction with oneself as a student only in older but not in younger children.

On the other hand, automatic thoughts that reflect a lack of motivation and interest in the material are a significant predictor of school success only in younger children and girls, but they do not explain the school success of either older students or boys. A possible explanation would be that younger students, especially girls, are more obedient in doing their school commitments and homework, and are thus probably more persistent in learning the material that they themselves assess as useless and annoying. These thoughts do not contribute to explaining the satisfaction of students, regardless of their gender and age.

Positive thoughts are not shown as significant predictors of school success. It was shown that positive thoughts are not significantly associated with any type of negative automatic thoughts during learning. These and the results of similar research (e.g. Živčić-Bećirević, 2003) suggest a greater need to control negative and destructive thoughts, while targeting positive thoughts is less useful.

The increase of test anxiety in the function of age periods can also be explained by the fact that more fears of bodily injury, discomfort in company or failing in some activities which could be relevant to the occurrence of test anxiety appear in older students. However, the results of research in this area are not entirely consistent. In a number of students test anxiety occurs as late as in high school or university, which can be interpreted by the fact that coming into a new environment that is less "protective" causes latent test anxiety, which begins to manifest itself then (Arambašić, 1988).

The conclusion is that in assessing the learning difficulties particular attention should be focused on identifying thoughts, beliefs and attitudes that students have about their problems and their own power to prevail these problems. Clinical experience in working with students with learning difficulties and taking tests (examinations) also points to the importance of identifying and modifying negative automatic thoughts. Cognitive techniques for identification and modification of negative automatic thoughts, often lead to significant reduction of emotional discomfort, they improve concentration and performance in learning, and they relieve test anxiety (Cohn, 1998). On the other hand, teaching students to use

positive, encouraging automatic thoughts (by means of techniques of self-instruction) also gives positive results in raising motivation and increasing persistence in learning.

Bibliography

1. Arknoff, D.B., Glass, C.R., & Robinson, A.S. (1992). Cognitive processes, anxiety and performance on doctoral dissertation oral examinations. *Journal of Counseling Psychology*, 39, 382-388.
2. Arambašić, L., Lugomer, G., & Vizek-Vidović, V. (1989). Provjera metrijskih karakteristika za mjerenje straha od školskog ispitivanja na učenicima IV i V razreda osnovne škole. *Psihologija,* 1-2: 16-27.
3. Besser, A., Flett, G. L., & Hewitt, P. L. (2004). Perfectionism, cognition, and affect in response to performance failure vs. success. *Journal of Rational-Emotive and Cognitive-Behavior Therapy, 22*, 301-328.
4. Benjamin, M., McKeachie, W. J., Lin, Y.G., & Holinger, D. P. (1981). Test anxiety: Deficits in information processing. *Journal of Educational Psychology, 73*,816-824.
5. Cassidy, S. (2000). Learning style, academic belief systems, self-report student proficiency and academic achievement in higher education. Educational Psychology, Vol. 20 Issue 3, 307-322.
6. Diaz, R.J., Glass, C.R., Arnkoff, D.B, & Tanofsky-Kraff, M. (2001). Cognition, Anxiety, and Prediction of Performance in 1st-Year Law Students. *Journal of Educational Psychology*, 93 (2), 420-429.
7. Elliot, A.J., & McGregor, H.A. (1999.), Test anxiety and the hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology*, 76 (4), 628-644.
8. Endler, N.S., Parker, J.D.A., Bagby, R.M., & Cox, B.J. (1991). Multidimensionality of state and trait anxiety: Factor structure of the Endler Multidimensional Anxiety Scales. *Journal of Personality and Social Psychology*, 60 (6), 919-926.
9. Frierson, H.T., & Hoban, D. (1987). Effects of test anxiety on performance on the NBME Part I examination. *Journal of Medical Education*, 62, 431-433.
10. Hunsley, J. (1985). Test anxiety, academic performance and cognitive appraisals. *Journal of Educational Psychology*, 77, 678-682.
11. Kendall, P.C., & Chansky, T. (1991). Considering cognition in anxiety-disordered children. *Journal of Anxiety Disorders*, 5, 167-185.
12. King, N.J., Mietz, A., Tinney, L., & Ollendick, T.H. (1995). Psychopathology and cognition in adolescents experiencing severe test anxiety. *Journal of Clinical Child Psychology*, 24, 49-54.
13. Lacković-Grgin, K. (2006). *Psihologija adolescencije*. Jastrebarsko: Naklada Slap.
14. Ledley, D.R., & Heimberg, R.G. (2006). Cognitive vulnerability to social anxiety. *Journal of Social and Clinical Psychology, 25*, 755-778.
15. McKeachie, W. J. (1984). Does anxiety disrupt information processing or does poor information processing lead to anxiety? *International Review of Applied Psychology, 33*, 187-203.
16. Marcin, M.S., & Nemeroff, C.B. (2003). The neurobiology of social anxiety disorder: the relevance of fear and anxiety. *ACTA Psychiatrica Scandinavica*, 108, 51–64.

17. Meichenbaum, D. (1977). *Cognitive behavior modification: An integrative approach*. New York: Plenum.
18. Mueller, J. H. (1980). Test anxiety and the encoding and retrieval of information. In: I. Sarason (Ed.), *Test Anxiety: Theory, Research and Applications* (pp. 63–86). Hillsdale, NJ: Erlbaum.
19. Ozer, E.M., & Bandura, A. (1990). Mechanisms governing empowerment effects: A self-efficacy analysis. *Journal of Personality and Social Psychology*, 58, 472-486.
20. Seipp, B. (1991). Anxiety and academic performance: A meta-analysis of findings. *Anxiety Research*, 4, 27-41.
21. Spielberger, C.D., & Vagg, P.R. (1995). *Test Anxiety, Theory, Assessment, and Treatment*, Washington: Taylor & Francis.
22. Tobias, S.(1985). Test anxiety: Interference, defective skills, and cognitive capacity. *Educational Psychologist*, 84, 616-622.
23. Warren, M.K., Ollendick T.H., & King, N.J. (1996). Test anxiety in girls and boys: A clinical-developmental analysis. *Behaviour Change*, 13, 157-170.
24. Wong, B. (1998). *Learning about learning disabilities.* New York: Academic Press.
25. Živčić-Bećirević, I. (2003). Uloga automatskih misli i ispitne anksioznosti u uspjehu studenata. *Društvena istraživanja,* 5 (67), 679-702.